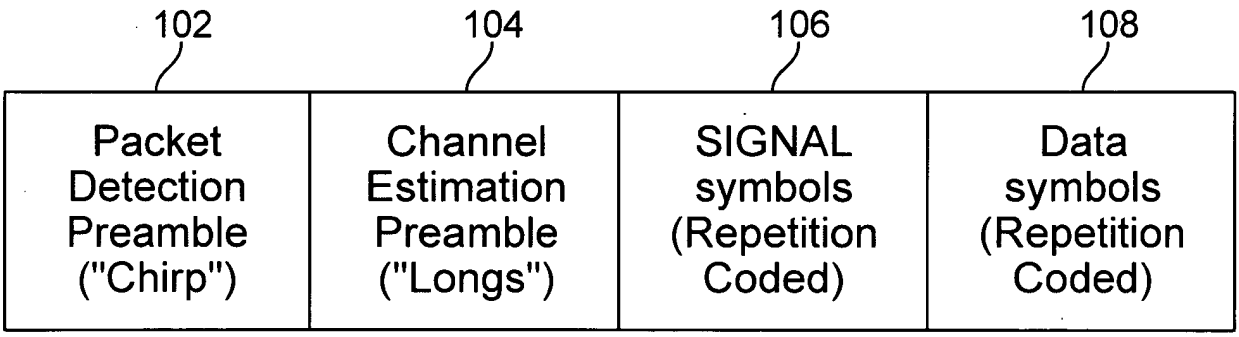
102
104
106
108
Packet Detection Preamble ("Chirp")
Channel Estimation Preamble ("Longs")
SIGNAL symbols (Repetition Coded)
Data symbols (Repetition Coded)

FIG. 1

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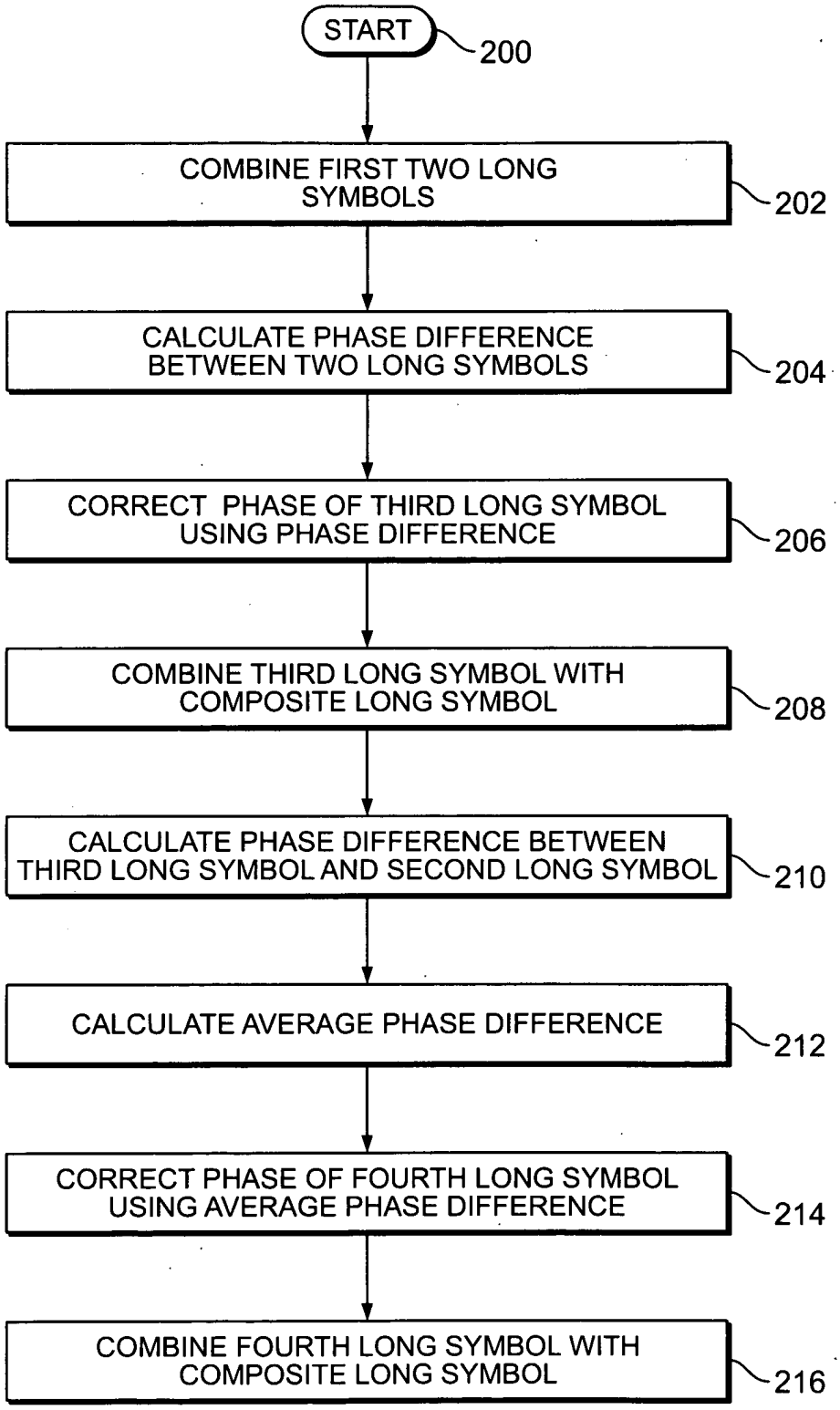
START
200
COMBINE FIRST TWO LONG SYMBOLS
202
CALCULATE PHASE DIFFERENCE BETWEEN TWO LONG SYMBOLS
204
CORRECT PHASE OF THIRD LONG SYMBOL USING PHASE DIFFERENCE
206
COMBINE THIRD LONG SYMBOL WITH COMPOSITE LONG SYMBOL
208
CALCULATE PHASE DIFFERENCE BETWEEN THIRD LONG SYMBOL AND SECOND LONG SYMBOL
210
CALCULATE AVERAGE PHASE DIFFERENCE
212
CORRECT PHASE OF FOURTH LONG SYMBOL USING AVERAGE PHASE DIFFERENCE
214
COMBINE FOURTH LONG SYMBOL WITH COMPOSITE LONG SYMBOL
216

FIG. 2

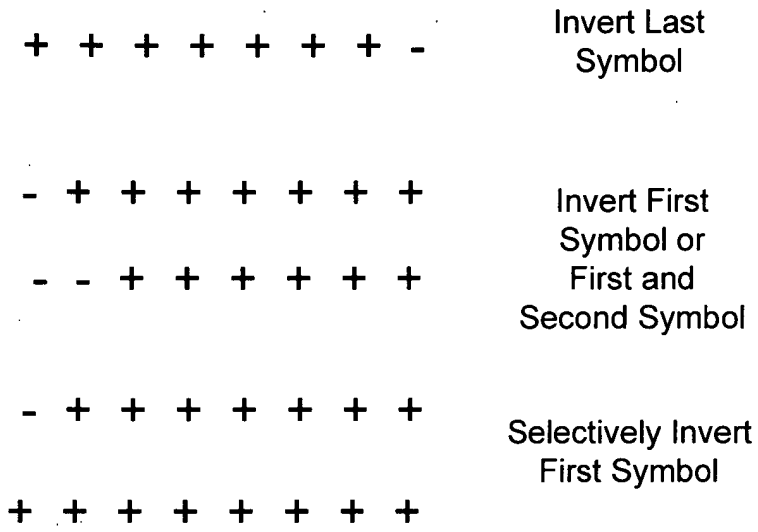
+ + + + + + + -
Invert Last Symbol
- + + + + + + +
Invert First Symbol or
- - + + + + + +
First and Second Symbol
- + + + + + + +
Selectively Invert First Symbol
+ + + + + + + +

Figure 3

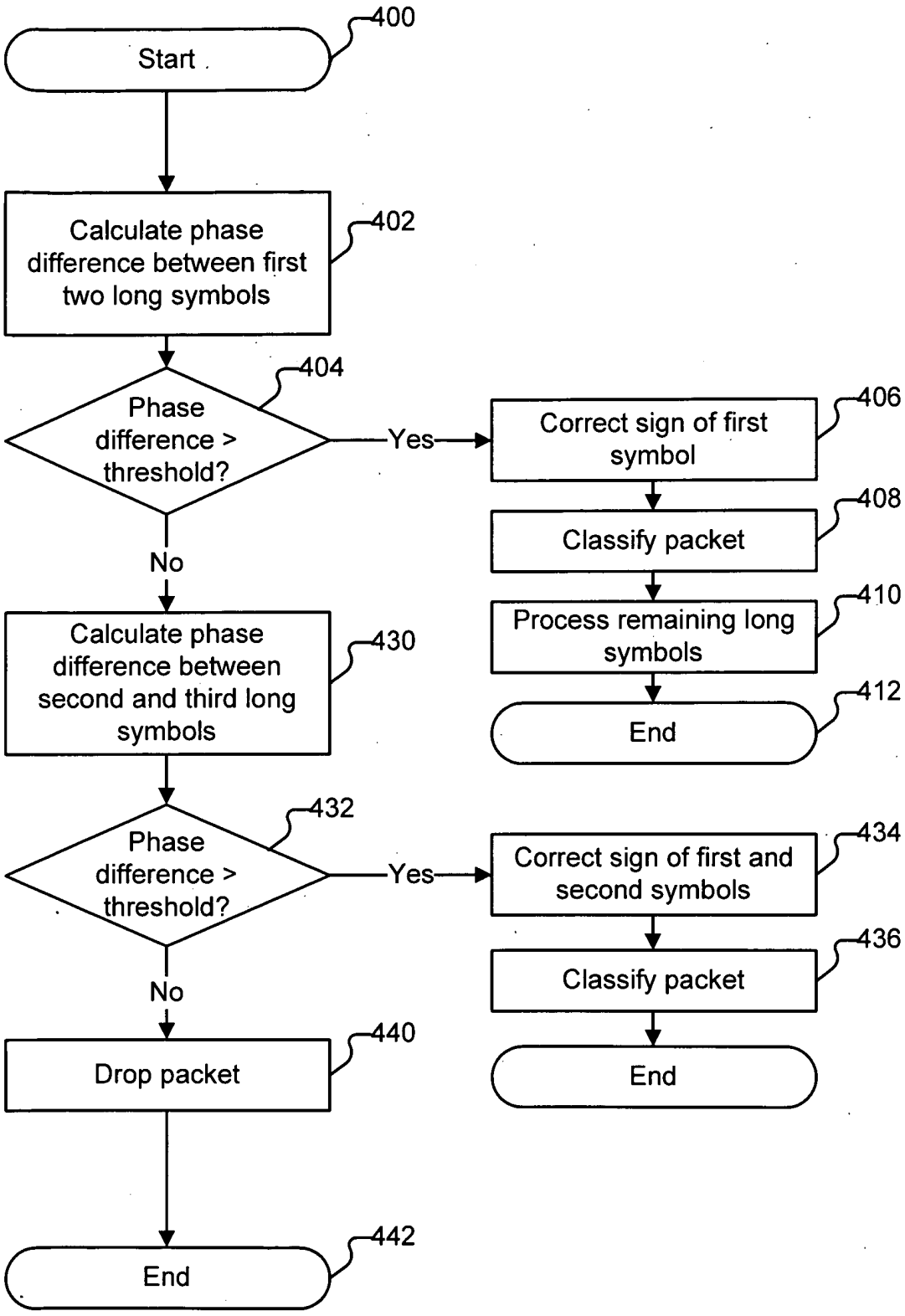
400
Start
402
Calculate phase difference between first two long symbols
404
Phase difference > threshold?
Yes
406
Correct sign of first symbol
408
Classify packet
410
Process remaining long symbols
412
End
No
430
Calculate phase difference between second and third long symbols
432
Phase difference > threshold?
Yes
434
Correct sign of first and second symbols
436
Classify packet
End
No
440
Drop packet
442
End

FIG. 4

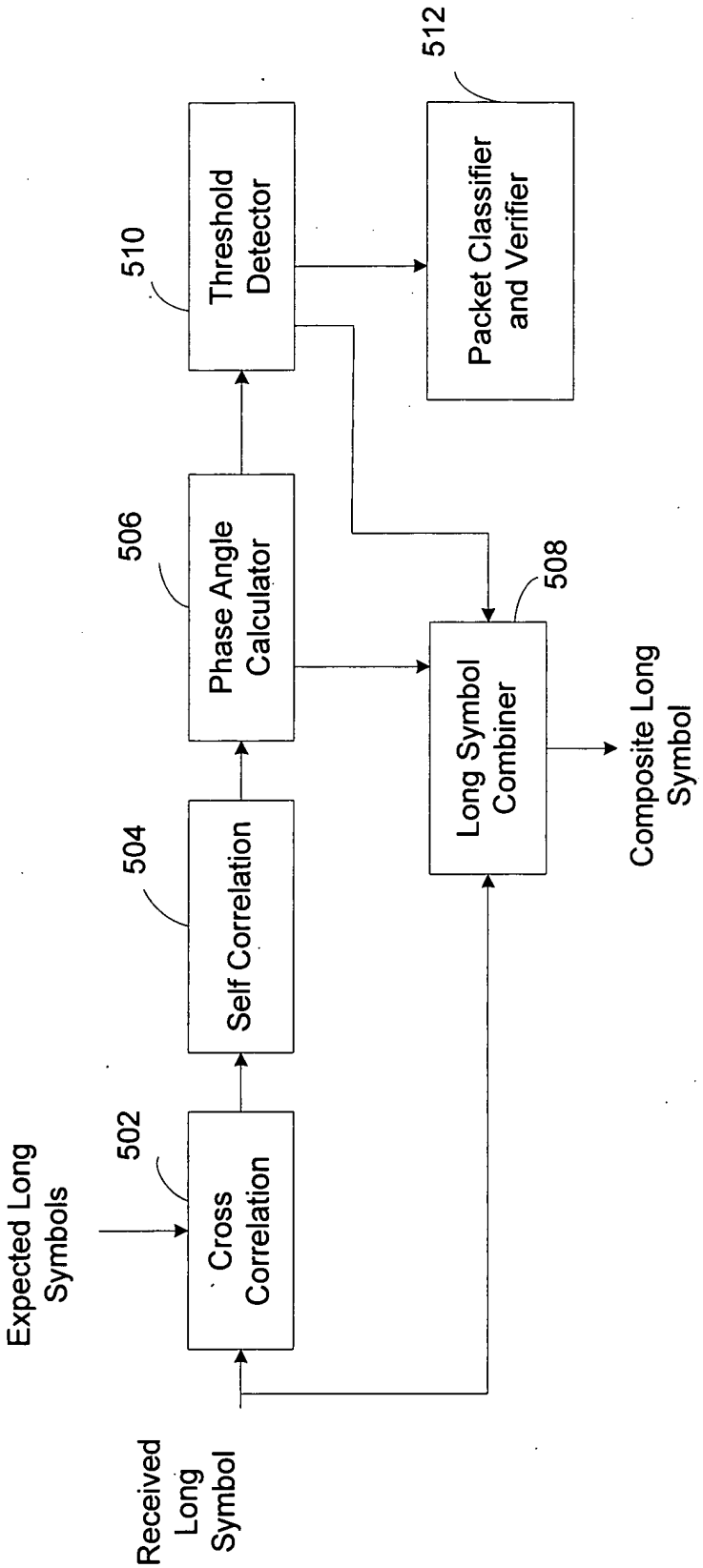
Received Long Symbol
Expected Long Symbols
502
Cross Correlation
504
Self Correlation
506
Phase Angle Calculator
508
Long Symbol Combiner
Composite Long Symbol
510
Threshold Detector
512
Packet Classifier and Verifier

Figure 5